REMARKS

Claims 8-14 stand rejected under 35 USC 112, second paragraph, as being indefinite. Claims 8-14 have been canceled and new claims 15-22 have been added. It is believed that the new claims 15-22 are not open to rejection under 35 USC 112, second paragraph.

An embodiment of the present invention is concerned with improving utilization of remnant sheet pieces such as are produced by shipbuilding work. The idea is to cut a remnant piece into one or more smaller pieces which may have practically any form. In accordance with claim 15, the piece to be cut is placed on a cutting surface located within a recording area of a camera means and the camera means records an image of the piece on the cutting surface. Information regarding outlines of the piece is provided to a positioning system on the basis of the image and at least one type of small part is selected, typically by an operator. The positioning system places a desired number of instances of the selected type(s) of small part within an area bounded by the outlines of the piece and establishes cutting paths. The cutting paths are input into a control system of the cutting apparatus and the control system determines cutting parameters. The sheet form piece located on the cutting surface is cut into parts under control of the control system in accordance with the cutting paths and the cutting parameters. It is not necessary to move the piece to be cut, because the coordinate system of the camera means and the coordinate system of the cutting apparatus are calibrated to correspond to each other. The only task left to the operator is to select the type(s) of small part to be cut from the remnant piece.

The examiner refers to Chaiken et al, Clarino et al, Blaimschein, Gerent et al, Alsten et al, Mikkelsen et al and Ishii et al as disclosing a related device. Chaiken et al is concerned with a garment cutting system adapted for use with fabrics. Clarino et al is concerned with a pattern alignment system for use during a garment development process. Blaimschein relates to a method of cutting out blanks from flat, irregular work pieces, in particular leather pieces. Alsten et al is concerned with cutting of graphic areas from sheets, particularly to form decals. Gerent et al is concerned with a apparatus and method for preparing parts cut from a layer of sheet material in a process for fabricating cloth products. Mikkelsen et al

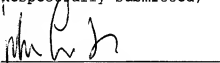
is similar to Alsten et al. Ishii et al is concerned with a punching device that punches a hole of a specified shape in a plate shaped work piece.

All but one of the references cited by the examiner is concerned explicitly with cutting material that is relatively dimensionally unstable. The documents relate to cutting and finishing of more or less soft material, such as hides, cloth, etc. which may also have regular sheet form. The work piece is set on a special table for defining the cuts to be made. Camera means are utilized for nesting of smaller pieces. Positioning information is then fed to a computer for controlling the cutting, presumably to be performed on the same table.

Utilization of this kind of small table is not applicable in nesting and cutting of smaller pieces from relatively large and heavy remnant pieces of metal, especially since the table itself may serve for direct digitizing the image of the work piece as in the case of, e.g., Clarino et al. Applicant therefore submits that it is impossible to provide for cutting on such tables by use of methods required for metal workpieces.

In view of the foregoing, applicant submits that the subject matter of claim 15 is not disclosed or suggested by the cited references, whether taken singly or in combination. Therefore, claim 15 is patentable and it follows that the dependent claims also are patentable.

Respectfully submitted,



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